

What is claimed is:

- 1 1. A machine-implemented method, comprising:
2 establishing, within a global operating system environment provided by an
3 operating system, a particular non-global partition which serves to isolate processes
4 running within the particular non-global partition from other non-global partitions within
5 the global operating system environment;
6 associating the particular non-global partition with a first resource pool
7 comprising one or more resources; and
8 ensuring that processes running within the particular non-global partition are
9 allowed to utilize only the resources in the first resource pool.
- 1 2. The method of claim 1, wherein the first resource pool comprises one or
2 more processors.
- 1 3. The method of claim 2, wherein ensuring comprises:
2 assigning work from processes running within the particular non-global partition
3 to only the one or more processors in the first resource pool.
- 1 4. The method of claim 1, wherein the first resource pool comprises an
2 indication of a maximum amount of memory that can be consumed.
- 1 5. The method of claim 4, wherein ensuring comprises:

2 receiving, from a particular process running within the particular non-global
3 partition, a memory allocation request;
4 determining whether granting the memory allocation request would cause the
5 maximum amount of memory that can be consumed to be exceeded; and
6 in response to a determination that granting the memory allocation request would
7 not cause the maximum amount of memory that can be consumed to be exceeded,
8 granting the memory allocation request.

1 6. The method of claim 5, wherein ensuring further comprises:
2 in response to a determination that granting the memory allocation request would
3 cause the maximum amount of memory that can be consumed to be exceeded,
4 deallocating sufficient memory from one or more other processes to enable the memory
5 allocation request to be granted without causing the maximum amount of memory that
6 can be consumed to be exceeded; and
7 granting the memory allocation request.

1 7. The method of claim 1, wherein the operating system is executed on a
2 computer system, and wherein the resources in the first resource pool are just a subset of
3 a total set of resources available on the computer system.

1 8. The method of claim 1, wherein ensuring comprises:
2 associating each process running within the particular non-global partition with
3 the first resource pool.

1 9. The method of claim 8, further comprising:
2 receiving an indication that the particular non-global partition is to be associated
3 with a second resource pool instead of the first resource pool, wherein the second
4 resource pool is different from the first resource pool, and wherein the second resource
5 pool comprises one or more resources;
6 associating the particular non-global partition with the second resource pool
7 instead of the first resource pool; and
8 ensuring that processes running within the particular non-global partition are
9 allowed to utilize only the resources in the second resource pool.

1 10. The method of claim 9, wherein ensuring that processes running within the
2 particular non-global partition are allowed to utilize only the resources in the second
3 resource pool comprises:
4 associating each process running within the particular non-global partition with
5 the second resource pool instead of the first resource pool.

1 11. The method of claim 1, wherein the operating system executes on a
2 computer system, and wherein the method further comprises:
3 receiving, from a particular process running within the particular non-global
4 partition, a request for information pertaining to all resources; and

5 providing, to the particular process, information pertaining only to the one or
6 more resources in the first resource pool, even though the computer system comprises
7 other resources.

1 12. A machine-readable medium, comprising:
2 instructions for causing one or more processors to establish, within a global
3 operating system environment provided by an operating system, a particular non-global
4 partition which serves to isolate processes running within the particular non-global
5 partition from other non-global partitions within the global operating system
6 environment;
7 instructions for causing one or more processors to associate the particular non-
8 global partition with a first resource pool comprising one or more resources; and
9 instructions for causing one or more processors to ensure that processes running
10 within the particular non-global partition are allowed to utilize only the resources in the
11 first resource pool.

1 13. The machine-readable medium of claim 12, wherein the first resource pool
2 comprises one or more processors.

1 14. The machine-readable medium of claim 13, wherein the instructions for
2 causing one or more processors to ensure comprises:

3 instructions for causing one or more processors to assign work from processes
4 running within the particular non-global partition to only the one or more processors in
5 the first resource pool.

1 15. The machine-readable medium of claim 12, wherein the first resource pool
2 comprises an indication of a maximum amount of memory that can be consumed.

1 16. The machine-readable medium of claim 15, wherein the instructions for
2 causing one or more processors to ensure comprises:
3 instructions for causing one or more processors to receive, from a particular
4 process running within the particular non-global partition, a memory allocation request;
5 instructions for causing one or more processors to determine whether granting the
6 memory allocation request would cause the maximum amount of memory that can be
7 consumed to be exceeded; and
8 instructions for causing one or more processors to grant, in response to a
9 determination that granting the memory allocation request would not cause the maximum
10 amount of memory that can be consumed to be exceeded, the memory allocation request.

1 17. The machine-readable medium of claim 16, wherein the instructions for
2 causing one or more processors to ensure further comprises:
3 instructions for causing one or more processors to deallocate, in response to a
4 determination that granting the memory allocation request would cause the maximum
5 amount of memory that can be consumed to be exceeded, sufficient memory from one or

6 more other processes to enable the memory allocation request to be granted without
7 causing the maximum amount of memory that can be consumed to be exceeded; and
8 instructions for causing one or more processors to grant the memory allocation
9 request.

1 18. The machine-readable medium of claim 12, wherein the operating system
2 is executed on a computer system, and wherein the resources in the first resource pool are
3 just a subset of a total set of resources available on the computer system.

1 19. The machine-readable medium of claim 12, wherein the instructions for
2 causing one or more processors to ensure comprises:
3 instructions for causing one or more processors to associate each process running
4 within the particular non-global partition with the first resource pool.

1 20. The machine-readable medium of claim 19, further comprising:
2 instructions for causing one or more processors to receive an indication that the
3 particular non-global partition is to be associated with a second resource pool instead of
4 the first resource pool, wherein the second resource pool is different from the first
5 resource pool, and wherein the second resource pool comprises one or more resources;
6 instructions for causing one or more processors to associate the particular non-
7 global partition with the second resource pool instead of the first resource pool; and

8 instructions for causing one or more processors to ensure that processes running
9 within the particular non-global partition are allowed to utilize only the resources in the
10 second resource pool.

1 21. The machine-readable medium of claim 20, wherein the instructions for
2 causing one or more processors to ensure that processes running within the particular
3 non-global partition are allowed to utilize only the resources in the second resource pool
4 comprises:
5 instructions for causing one or more processors to associate each process running
6 within the particular non-global partition with the second resource pool instead of the first
7 resource pool.

1 22. The machine-readable medium of claim 12, wherein the operating system
2 executes on a computer system, and wherein the machine-readable medium further
3 comprises:
4 instructions for causing one or more processors to receive, from a particular
5 process running within the particular non-global partition, a request for information
6 pertaining to all resources; and
7 instructions for causing one or more processors to provide, to the particular
8 process, information pertaining only to the one or more resources in the first resource
9 pool, even though the computer system comprises other resources.

1 23. An apparatus, comprising:

2 a mechanism for establishing, within a global operating system environment
3 provided by an operating system, a particular non-global partition which serves to isolate
4 processes running within the particular non-global partition from other non-global
5 partitions within the global operating system environment;

6 a mechanism for associating the particular non-global partition with a first
7 resource pool comprising one or more resources; and

8 a mechanism for ensuring that processes running within the particular non-global
9 partition are allowed to utilize only the resources in the first resource pool.

1 24. The apparatus of claim 23, wherein the first resource pool comprises one
2 or more processors.

1 25. The apparatus of claim 24, wherein the mechanism for ensuring
2 comprises:

3 a mechanism for assigning work from processes running within the particular non-
4 global partition to only the one or more processors in the first resource pool.

1 26. The apparatus of claim 23, wherein the first resource pool comprises an
2 indication of a maximum amount of memory that can be consumed.

1 27. The apparatus of claim 26, wherein the mechanism for ensuring
2 comprises:

3 a mechanism for receiving, from a particular process running within the particular
4 non-global partition, a memory allocation request;
5 a mechanism for determining whether granting the memory allocation request
6 would cause the maximum amount of memory that can be consumed to be exceeded; and
7 a mechanism for granting, in response to a determination that granting the
8 memory allocation request would not cause the maximum amount of memory that can be
9 consumed to be exceeded, the memory allocation request.

1 28. The apparatus of claim 27, wherein the mechanism for ensuring further
2 comprises:

3 a mechanism for deallocating, in response to a determination that granting the
4 memory allocation request would cause the maximum amount of memory that can be
5 consumed to be exceeded, sufficient memory from one or more other processes to enable
6 the memory allocation request to be granted without causing the maximum amount of
7 memory that can be consumed to be exceeded; and
8 a mechanism for granting the memory allocation request.

1 29. The apparatus of claim 23, wherein the operating system is executed on a
2 computer system, and wherein the resources in the first resource pool are just a subset of
3 a total set of resources available on the computer system.

1 30. The apparatus of claim 23, wherein the mechanism for ensuring
2 comprises:

3 a mechanism for associating each process running within the particular non-global
4 partition with the first resource pool.

1 31. The apparatus of claim 30, further comprising:
2 a mechanism for receiving an indication that the particular non-global partition is
3 to be associated with a second resource pool instead of the first resource pool, wherein
4 the second resource pool is different from the first resource pool, and wherein the second
5 resource pool comprises one or more resources;
6 a mechanism for associating the particular non-global partition with the second
7 resource pool instead of the first resource pool; and
8 a mechanism for ensuring that processes running within the particular non-global
9 partition are allowed to utilize only the resources in the second resource pool.

1 32. The apparatus of claim 31, wherein the mechanism for ensuring that
2 processes running within the particular non-global partition are allowed to utilize only the
3 resources in the second resource pool comprises:
4 a mechanism for associating each process running within the particular non-global
5 partition with the second resource pool instead of the first resource pool.

1 33. The apparatus of claim 23, wherein the operating system executes on a
2 computer system, and wherein the apparatus further comprises:
3 a mechanism for receiving, from a particular process running within the particular
4 non-global partition, a request for information pertaining to all resources; and

5 a mechanism for providing, to the particular process, information pertaining only
6 to the one or more resources in the first resource pool, even though the computer system
7 comprises other resources.